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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,375	12/18/2001	Lawrence J. DaQuino	10010792-1	2452

7590 07/05/2005

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EXAMINER

LAM, ANN Y

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/023,375	Applicant(s) DAQUINO ET AL.	
	Examiner Ann Y. Lam	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 and 29-35 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10-17 and 29-35 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

5.0-0

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-13, 15-17, 29-33 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Kennedy, 6,074,725.

As to claims 1, 10 and 29, Kennnedy discloses a pulse jet printhead (col. 6, lines 47-50) comprising:

(a) a multiple die printhead comprising:

(i) an orifice plate (i.e., substrate forming the orifices, col. 5, line 66 – col. 6, line 1) comprising a plurality of orifices (col. 5, line 67- col. 6, line 1); and

(ii) a plurality of thermal printhead dies (i.e., comprising resistors, col. 7, lines 4-5, and col. 6, lines 60, and col. 11, lines 26-28) present on a surface of said orifice plate in operational alignment with said orifices to produce at least one firing chamber; and

(b) a volume of an aqueous fluid that includes a biopolymer (col. 7, lines 37-43) or precursor thereof in said at least one firing chamber.

As to claims 2-4, 11-13 and 31-33 the printhead comprises from 2 to about 10 printhead dies, or 2 to 5 printhead dies, or 3 printhead dies (col. 7, lines 3-5.)

As to claims 6, 7, 16, 17 and 30, said biopolymer is polypeptides or nucleic acids (col. 7, lines 37-43.)

As to claim 8, said printhead is present in a printhead assembly that further includes at least one fluid reservoir (i.e., reservoir or channel, col. 6, line 56) in fluid communication with said firing chamber.

As to claims 9, 15 and 35, said fluid reservoir comprises said aqueous fluid that includes a biopolymer (col. 7, lines 37-43.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 14 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy, 6,074,725, in view of Gordon et al., 5,855,835.

Kennedy discloses the invention substantially as claimed (see above), except for the resistor element being on a surface of a semiconductor substrate. Kennedy does not specify what material forms the substrate but rather discloses the substrate in general.

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Gordon et al. teaches a thermal jet printhead (col. 2, lines 65-66) wherein the resistor is formed on a substrate (20) that is made of semiconductor (col. 3, lines 5-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize semiconductor as taught by Gordon et al. as the material to form the substrate generally disclosed by Kennedy because Gordon et al. teaches that semiconductor can be used to form a substrate for a resistor in a thermal jet printhead, such as that disclosed by Kennedy.

Response to Arguments

Applicant's arguments filed April 15, 2005 have been fully considered but they are not persuasive. Applicant argues that Kennedy does not disclose a multiple die printhead having a plurality of thermal printhead dies, nor a plurality of printhead dies in operational alignment with the orifices. Examiner maintains that a plurality of thermal printhead dies is disclosed by Kennedy at column 11, lines 26-28, and that the printhead dies are in operational alignment with orifices as disclosed in column 7, line 4. That is, Kennedy discloses that the printheads are circuit-like arrays of uniform resistors (col. 11, lines 26-28) and that a printhead incorporates one or more orifices (col. 7, line 4.)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references disclose a plurality of print heads in operational alignment with orifices or nozzles: Horvath et al., 6,880,246, Anderson, 5,757,398, Beerling et al., 6,123,410, Waller et al., 6,250,738, Anderson et al., 6,322,189.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.L.



LONG V. LE
SUPERVISORY PATENT EXAMINER
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08/26/05